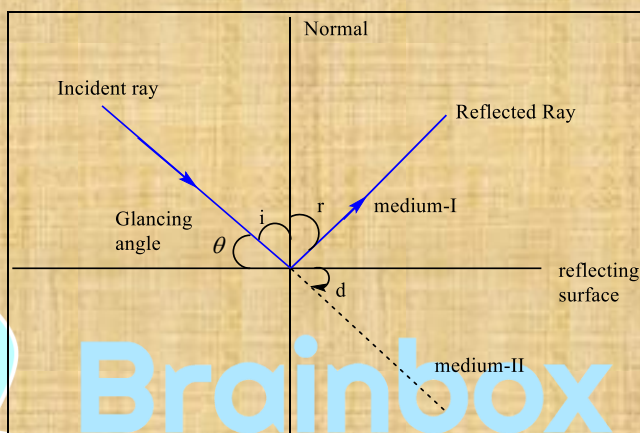


Chapter 10

REFLECTION AND REFRACTION

REFLECTION OF LIGHT:

- Incident ray, reflected ray and normal drawn to the surface lie in the same plane.
- Angle of incidence i = Angle of reflection (r).
- Angle of deviation (d) = $180 - 2i$
- For normal incidence, the deviation is 180° .



REFLECTION:

- When the rays after reflection if actually converge to the image, it is called real image and if they appear to diverge from the image, it is called virtual image.
- Real image can be recieved on a screen but not the virtual image.
- The region between the extreme reflected rays from the mirror is called its fields of view. It depends on the location of the object infront of the mirror. If our eye lies in the field of view then only we can see the full image of object otherwise not.
- Mirrors work on the principle of reflection.

V. SIGN CONVENTION:

- All distances are measured from the pole of the mirror (from surface for plan mirror).
- The distances measured along the direction of incident light are taken as positive and those measures in the direction opposite to the direction of incident light are taken as negative.

- c) For spherical mirrors the heights measured upwards and normal to the principal axis are taken as positive. The heights measured downwards are taken as negative.

VI. For all types of mirrors the linear magnification 'm' is given by

$$m = \frac{\text{size of image}}{\text{size of object}}$$

$$m = \frac{-(\text{image distance})}{\text{object distance}} = \frac{-v}{u}$$

